

# ON THE MONEY

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## **Recession in Ohio?**

Governor John Kasich issued a dire warning on the floor of the Ohio House on December 6, 2016. Pointing to tax receipts lagging far behind projections, he said, “We are on the verge of a recession in our state.”<sup>1</sup> This article will explore various state-level economic indicators to evaluate this claim. The analysis will show that while many measures of economic growth are indeed lagging, there is little reason to believe that there will be an outright recession in Ohio in the foreseeable future.

First, it is important to have a formal definition of the term “recession.” According to the National Bureau of Economic Research (NBER), the non-profit, non-partisan organization whose Business Cycle Dating Committee provides the official beginning and ending dates of recessions:

A recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators. A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough. Between trough and peak, the economy is in an expansion.<sup>2</sup>

Notice first that in a recession, the economy is in the process of contracting; the levels of economic indicators are suffering sustained declines. The recession ends not when the economy is restored to health but when the levels of economic indicators reach a bottom and begin a sustained increase. Second, a variety of economic measures are decreasing in a recession, not merely Gross Domestic Product (GDP). Indeed, there is no mention in the NBER definition of the commonly-quoted criterion that a recession occurs when GDP declines for two consecutive quarters. According to the NBER,

Most of the recessions identified by our procedures do consist of two or more quarters of declining real GDP, but not all of them. In 2001, for example, the recession did not include two consecutive quarters of decline in real GDP.<sup>3</sup>

Thus, to evaluate the argument that Ohio is on the verge of a recession, we need to focus on broad economic indicators – production, income, and employment – and on changes in those

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<sup>1</sup> Jim Siegel and J.D. Malone. “Kasich: Ohio on verge of recession.” *The Columbus Dispatch*, December 7, 2016, p. 1B.

<sup>2</sup> National Bureau of Economic Research. “Determination of the December 2007 peak in economic activity.” December 11, 2008. <http://www.nber.org/cycles/dec2008.pdf>. Retrieved February 6, 2017.

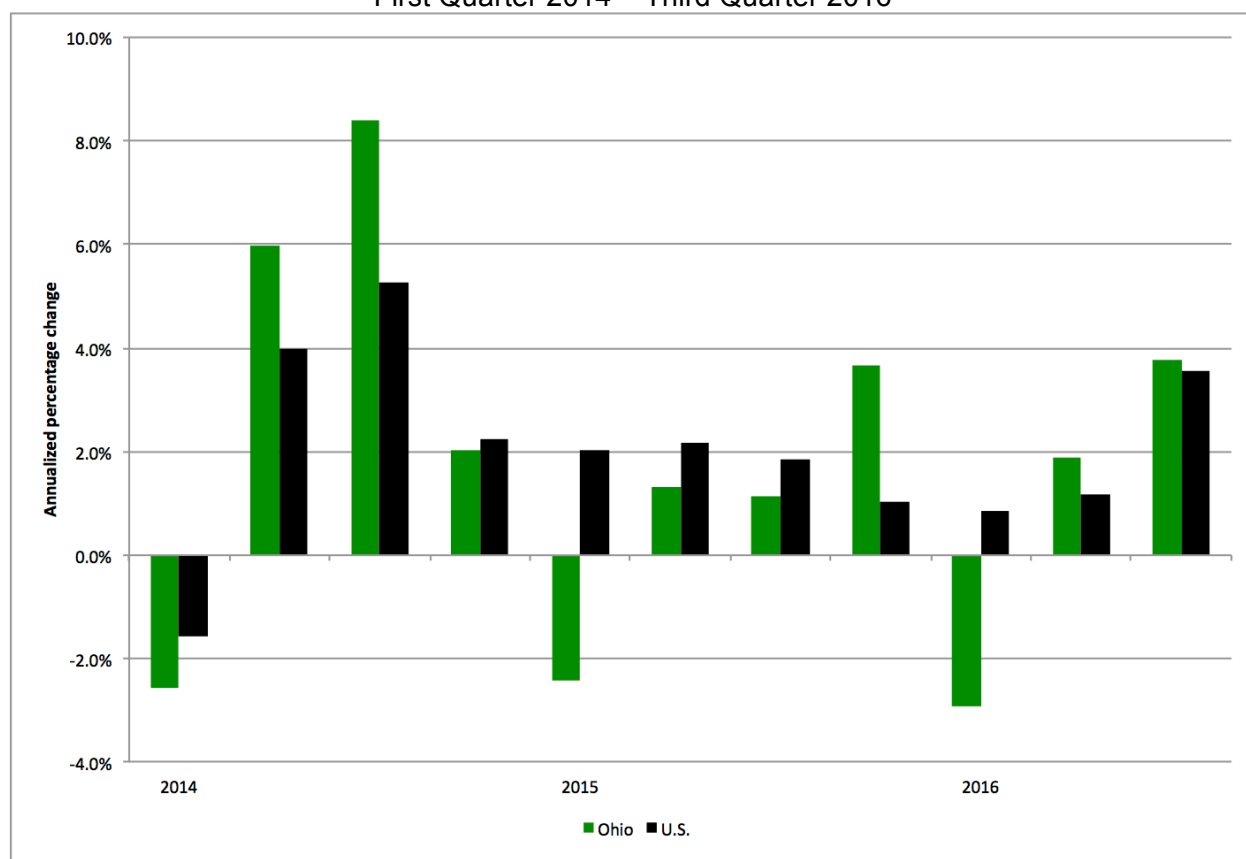
<sup>3</sup> National Bureau of Economic Research. “The NBER’s business cycle dating procedure: Frequently asked questions.” n.d. [http://www.nber.org/cycles/recessions\\_faq.html](http://www.nber.org/cycles/recessions_faq.html). Retrieved February 6, 2017.

indicators rather than their levels. If these indicators are either declining or showing significantly decreasing growth, the state may in fact be nearing a recession. While it is not necessary to compare the Ohio indicators to national averages, it is certainly worthwhile to do so.

## Production: GDP

The Bureau of Economic Analysis (BEA) provides estimates of GDP (the total value of all goods and services produced within a defined area during a defined period) for the nation and states on a quarterly basis. Estimates are available both in total and for primary industry sectors. Figure 1 charts the annualized percentage change in quarterly total GDP for Ohio and the U.S. over the past three years. Ohio GDP appears more volatile than national GDP. Note, however, that Ohio GDP declined in the first quarter of each of the last three years (and in 2011 and 2012 as well). GDP estimates are adjusted in an effort to eliminate recurring seasonal patterns and reveal the underlying economic trend. The recurring declines in Figure 1 suggest that the BEA's seasonal adjustment model is probably not eliminating all of the seasonality in Ohio GDP. (Economists have suggested that the same problem exists to a lesser degree in the national GDP estimates.) If that is the case, the change in Ohio GDP is understated for the first quarter and overstated for one or more other quarters. In any case, GDP growth, while less than the very strong rates in 2014, is not declining in a way that would cause concern.

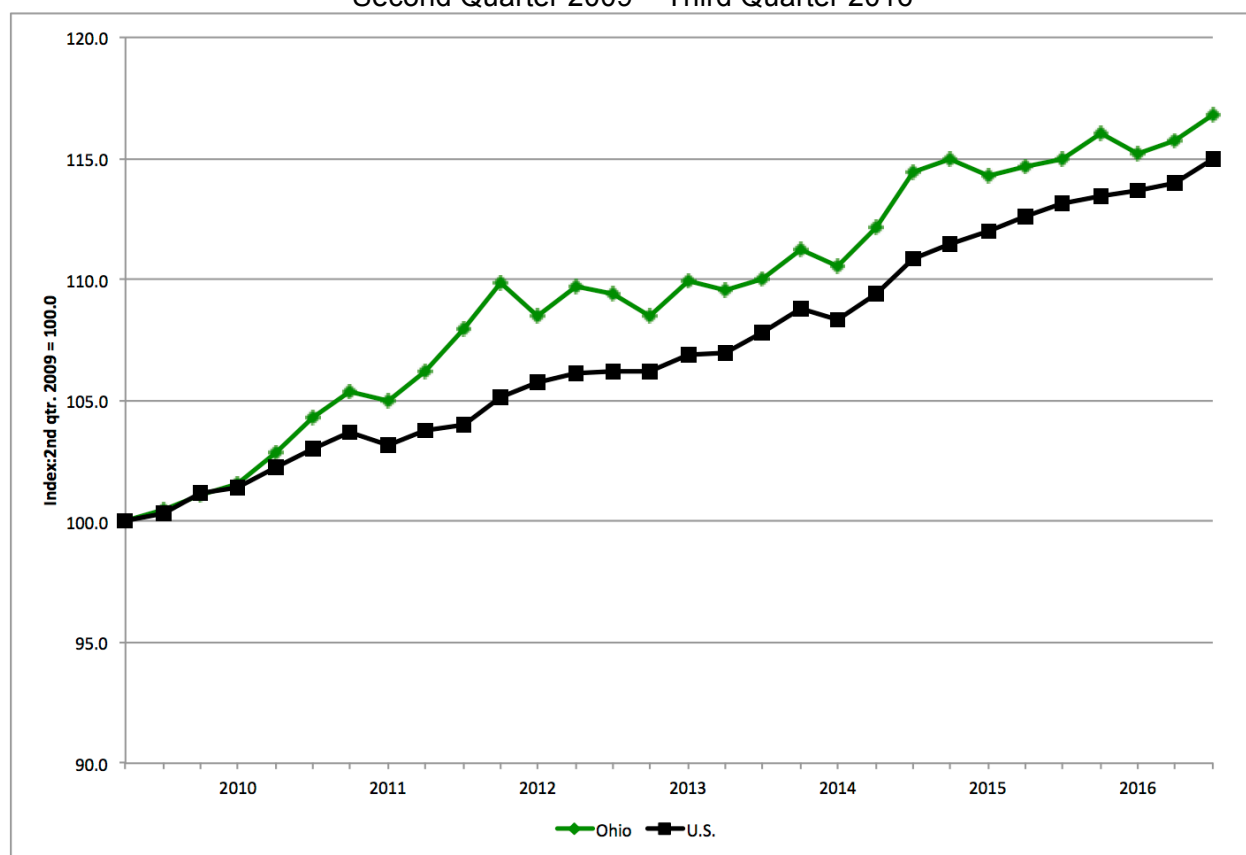
**Figure 1**  
**Annualized Percentage Changes in Gross Domestic Product**  
First Quarter 2014 – Third Quarter 2016



**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

In fact, as Figure 2 shows, GDP growth since the expansion began has exceeded the national average. (This chart graphs GDP on an index basis, so it compares cumulative growth in Ohio production to that at the national level.) Ohio's better-than-average performance is due solely to exceptionally high growth during 2010 and 2011; Ohio growth over those two years averaged 3.3 percent annually, more than half again the 2.1 percent national average. Since then, Ohio's annual GDP growth has averaged 1.7 percent, slightly less than the 1.9 percent average. Nevertheless, the cumulative net change in Ohio GDP since the trough in the second quarter of 2009 has been 16.8 percent versus 15 percent nationwide.

**Figure 2**  
**Comparative Growth in Gross Domestic Product**  
 Second Quarter 2009 – Third Quarter 2016



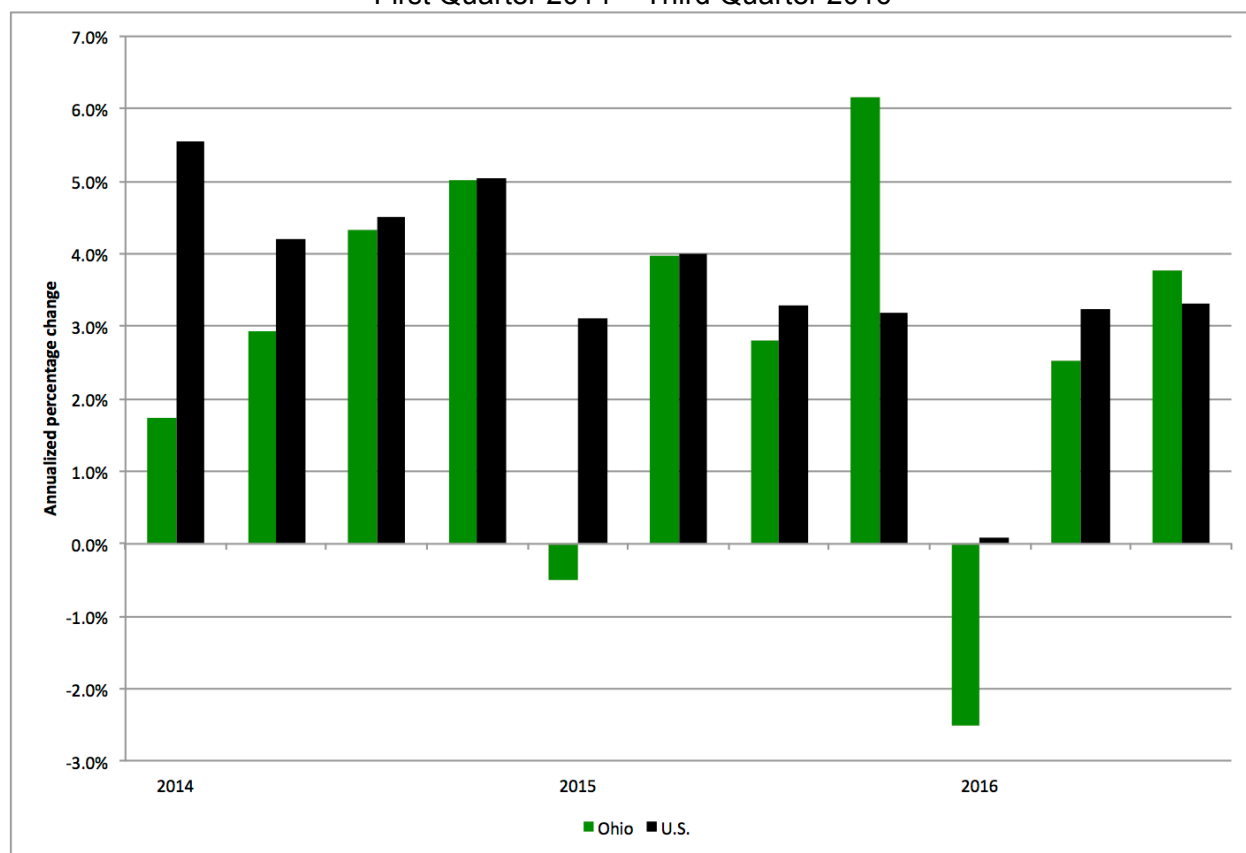
**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

## Income

BEA provides quarterly estimates of total state personal income, which is the income of all residents from all sources except capital gains, and per capita personal income, which is total personal income divided by population. One modification to income must be made: transfer payments must be deducted. These are government payments to individuals including Social Security, Medicare and Medicaid payments, unemployment compensation, and other forms of public assistance. Income growth is evaluated net of these payments because the intent of many of them is to offset the impact of low and declining household income. Consequently, they obscure the trend in income derived from economic activity. Also, as in the case of GDP, income must be adjusted for inflation.

Figure 3 graphs annualized quarterly changes in total personal income net of transfer payments over the past three years. Aside from the suspiciously weak first quarter rates, income growth has been relatively stable and not markedly less than the national average rate.

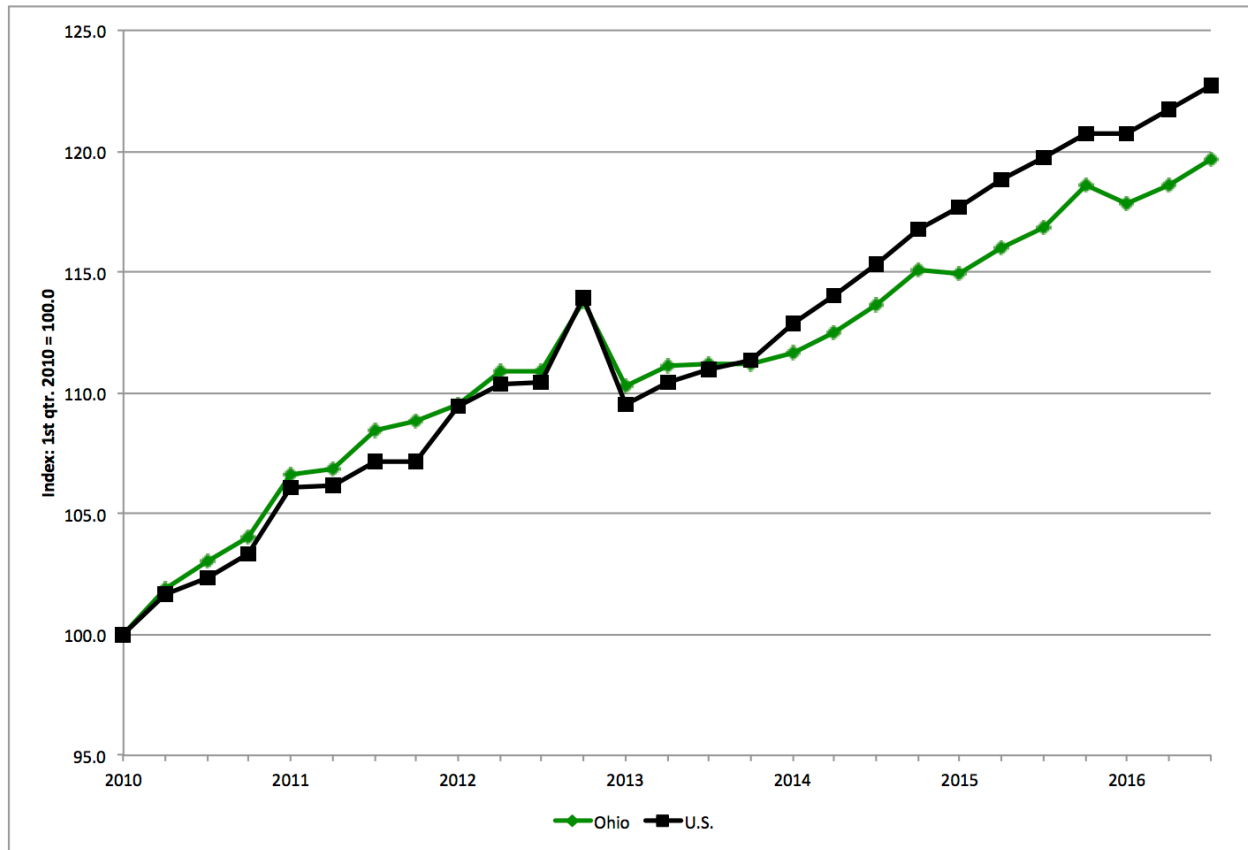
**Figure 3**  
**Annualized Percentage Changes in Total Personal Income Net of Transfer Payments**  
 First Quarter 2014 – Third Quarter 2016



**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

As Figure 4 reveals, however, total personal income growth began to lag national average growth late in 2013 after tracking close to or slightly above the average before then. This time series begins in the first quarter of 2010, two quarters later than the GDP series in Figure 2. This was when both personal income and employment began to increase. Still, the Business Cycle Dating Committee determined that the recession ended in June 2009 based on a variety of other economic measures, including GDP. Not all indicators have to be in positive territory for a trough to be identified. Cumulative growth in total personal income over the period was 22.7 percent nationally and 19.7 percent in Ohio.

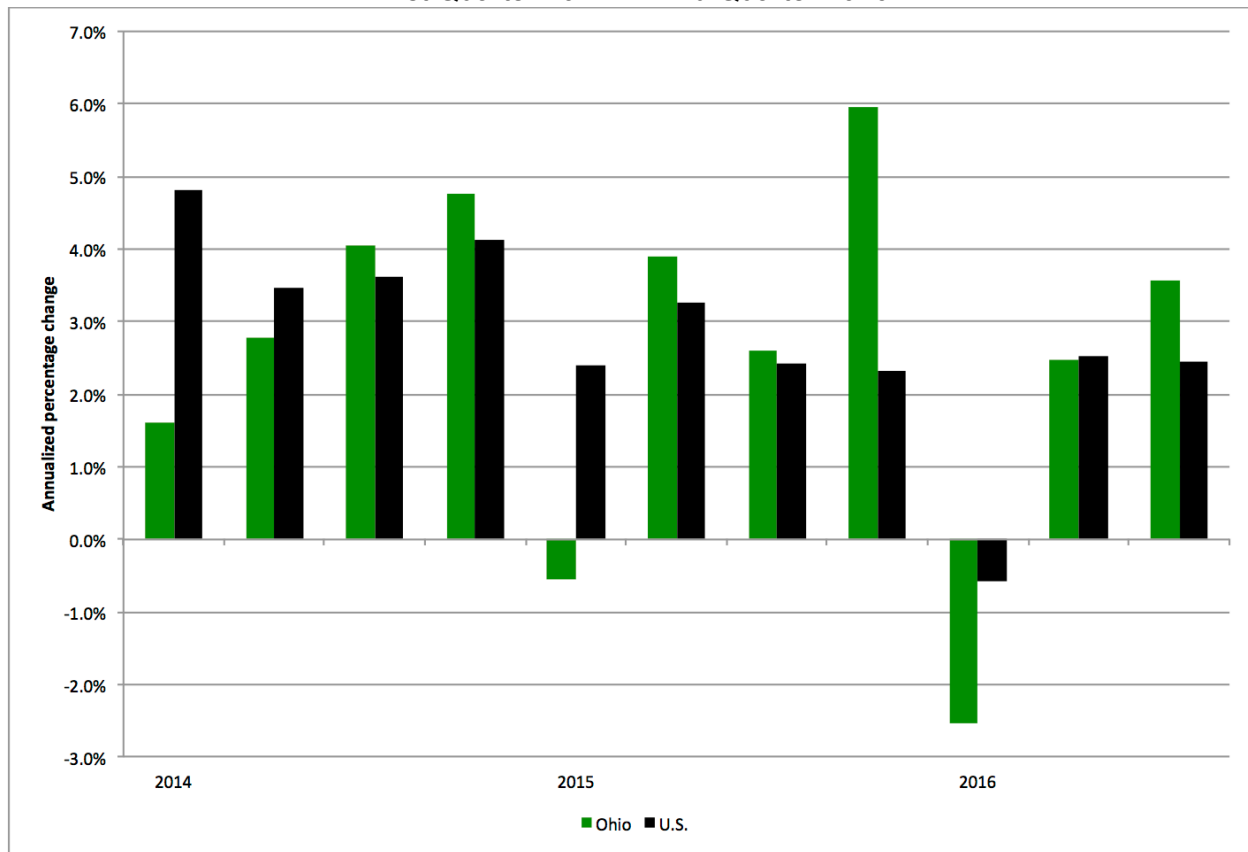
**Figure 4**  
**Comparative Growth in Total Personal Income Net of Transfer Payments**  
 First Quarter 2010 – Third Quarter 2016



**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

A second way to evaluate income is by analyzing per capita personal income. This is simply total income net of transfer payments divided by total resident population. Annualized quarterly growth in this measure over the past three years is plotted in Figure 5. Growth rates are similar to those of total income shown in Figure 3, except the Ohio rates are more frequently greater than US rates.

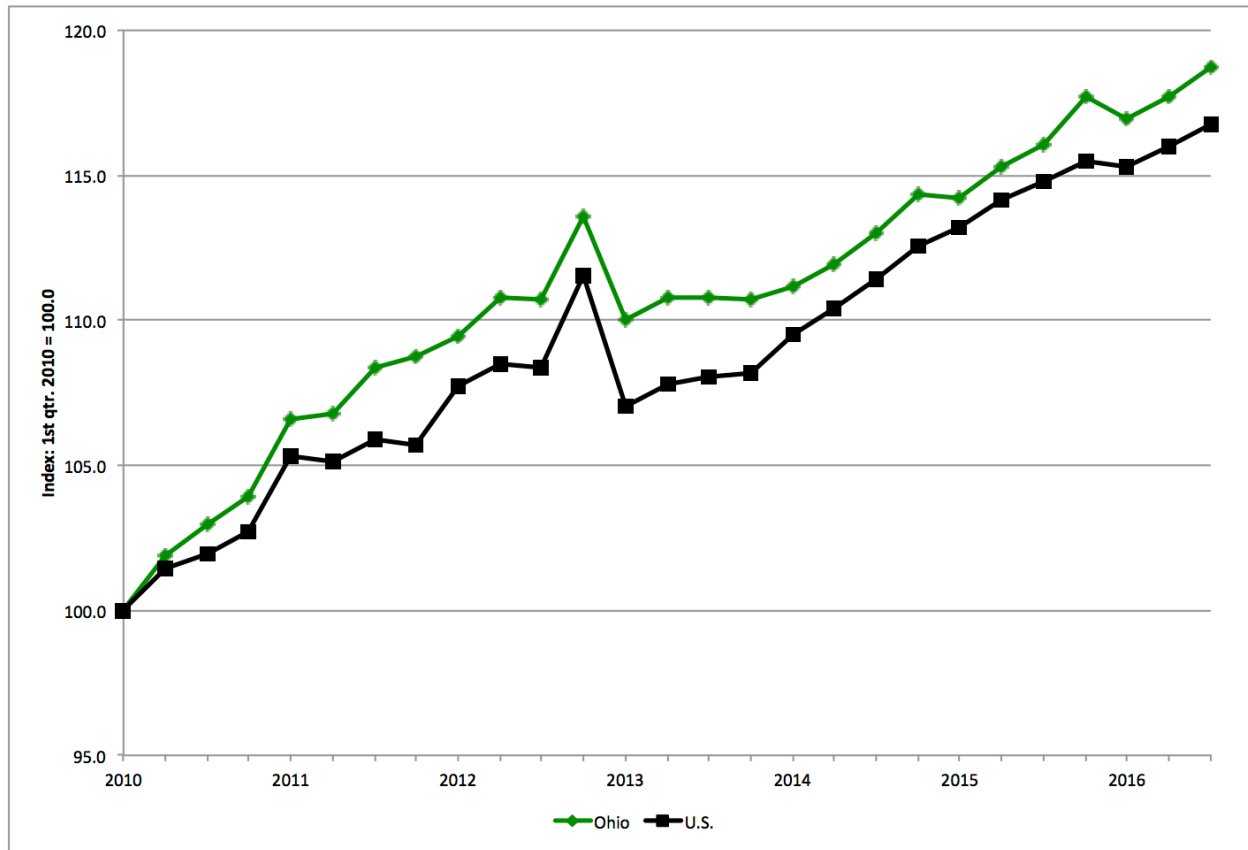
**Figure 5**  
**Annualized Percentage Changes in Per Capita Personal Income**  
**Net of Transfer Payments**  
 First Quarter 2014 – Third Quarter 2016



**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

This difference is confirmed by Figure 6, which shows cumulative growth in per capita income since its national and statewide trough in the first quarter of 2010. Cumulative growth in Ohio per capita income is consistently higher than the national average (but converging in recent years). For the period, Ohio per capita income net of inflation grew 18.7 percent, compared to 16.7 percent nationwide. The implication of the differences in total and per capita income growth rates is that the weakness in Ohio total income growth is partly a function of the state's slow population growth. Growth in total income is less than average in part because the number of income-earning people is increasing more slowly than average.

**Figure 6**  
**Comparative Growth in Per Capita Personal Income Net of Transfer Payments**  
 First Quarter 2010 – Third Quarter 2016

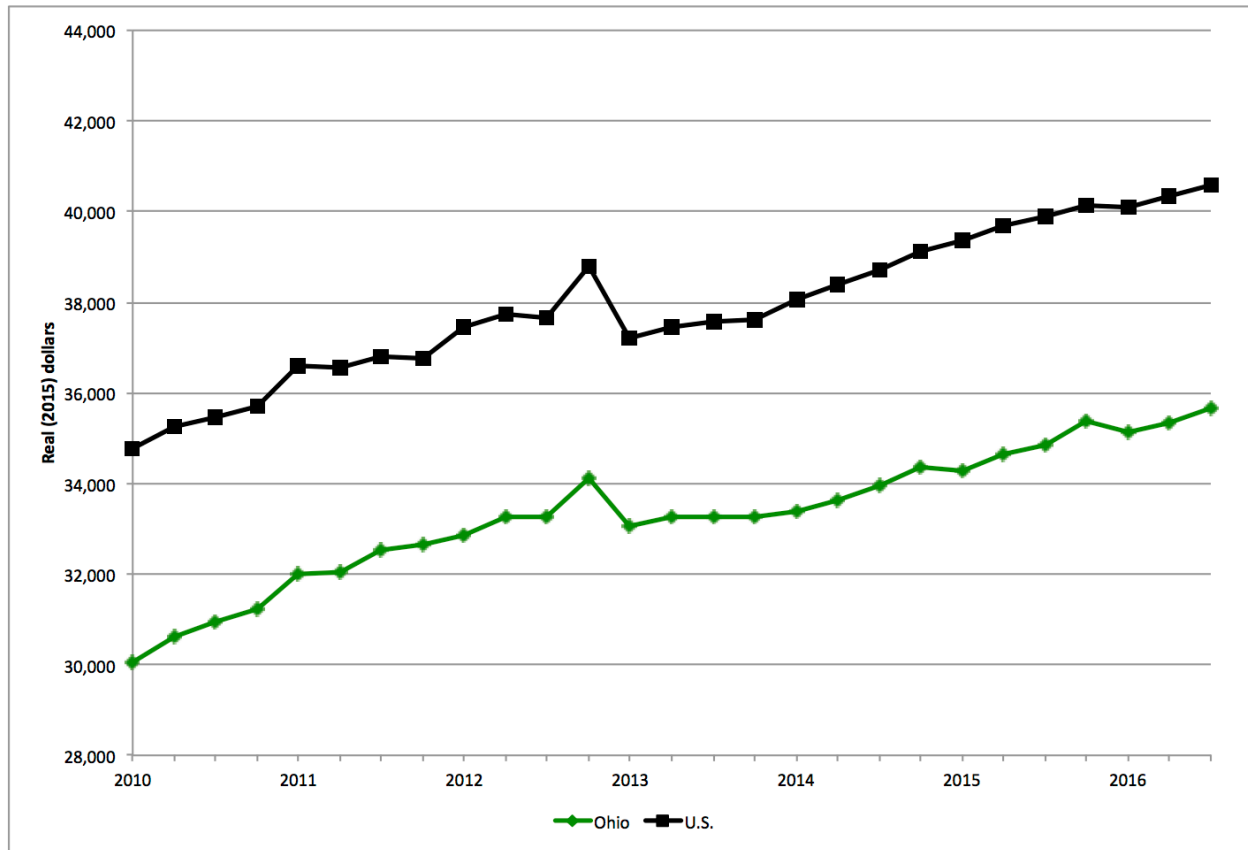


**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

Unlike the other measures in this analysis, it is meaningful to compare absolute levels of per capita income. These are charted in Figure 7. Per capita income is consistently 11 to 13 percent lower than the national average in Ohio, but the gap is not widening.

Although the growth of total income is less than average in Ohio, individuals are not losing ground and income growth rates in the state remain generally positive. Thus, income trends, like production trends, do not support the claim that a recession is imminent.

**Figure 7**  
**Inflation-Adjusted Per Capita Personal Income Net of Transfer Payments**  
 First Quarter 2010 – Third Quarter 2016



**Source:** Regional Economic Accounts, U.S. Bureau of Economic Analysis.

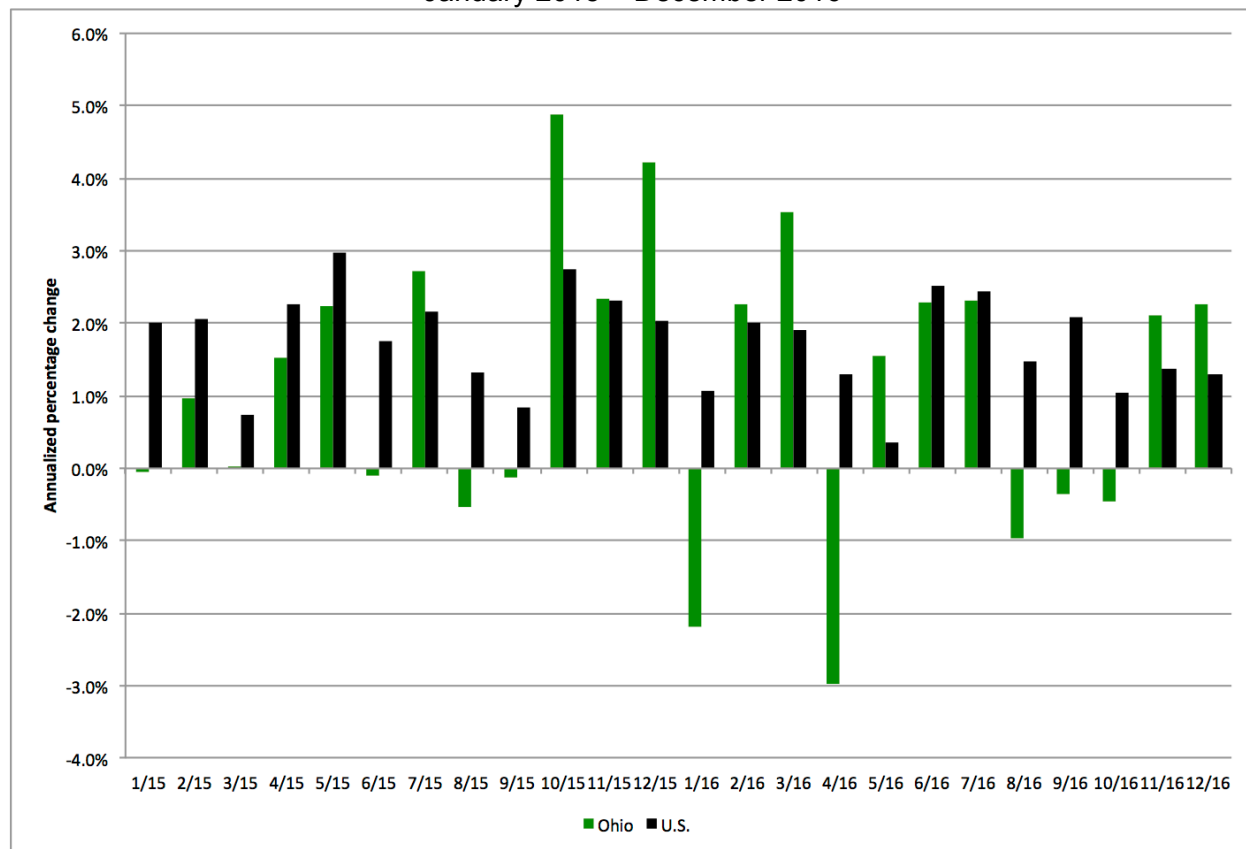
## Employment

There are two separate measures of employment produced on a monthly basis by the US Bureau of Labor Statistics. The first, the Current Employment Statistics, comes from a monthly survey of employers and reports the total number of jobs on private and public payrolls. (This measure has been analyzed a number of times in previous *On the Money* articles.) The second comes from a survey of households, the Current Population Survey. This survey estimates the number of working-age individuals in the labor force, the number employed, and the number unemployed. The most widely-followed result of this survey is the unemployment rate. The payroll survey gives an estimate of the number of jobs in Ohio, while the household survey estimates the number of Ohio residents who are employed – in some cases outside of Ohio. The two measures consider different populations and define employment differently; for example, an individual working two jobs is counted once in the household survey but twice in the payroll survey. A Kentucky resident's job in downtown Cincinnati is counted in the payroll survey, but the resident is counted in Kentucky and not in Ohio. The household survey also includes employment not included in the payroll survey: self-employment, railroad employment, and farm employment. Both the payroll survey and the household survey should thus be evaluated.



The recent annualized monthly percentage changes in payrolls (jobs in Ohio) are charted in Figure 8. Note that because monthly changes are available, the chart includes only two years of data rather than three. The monthly changes are volatile but generally positive, other than the three-month run of declines from last August through October 2016. As with the other charts, the percentage changes shown here are annualized. In absolute terms, the annualized three-percent employment decline in April 2016 translates to a decline of 13,800 jobs, or 0.25 percent. The recent three-month decline totaled 8,100 jobs or 0.15 percent.

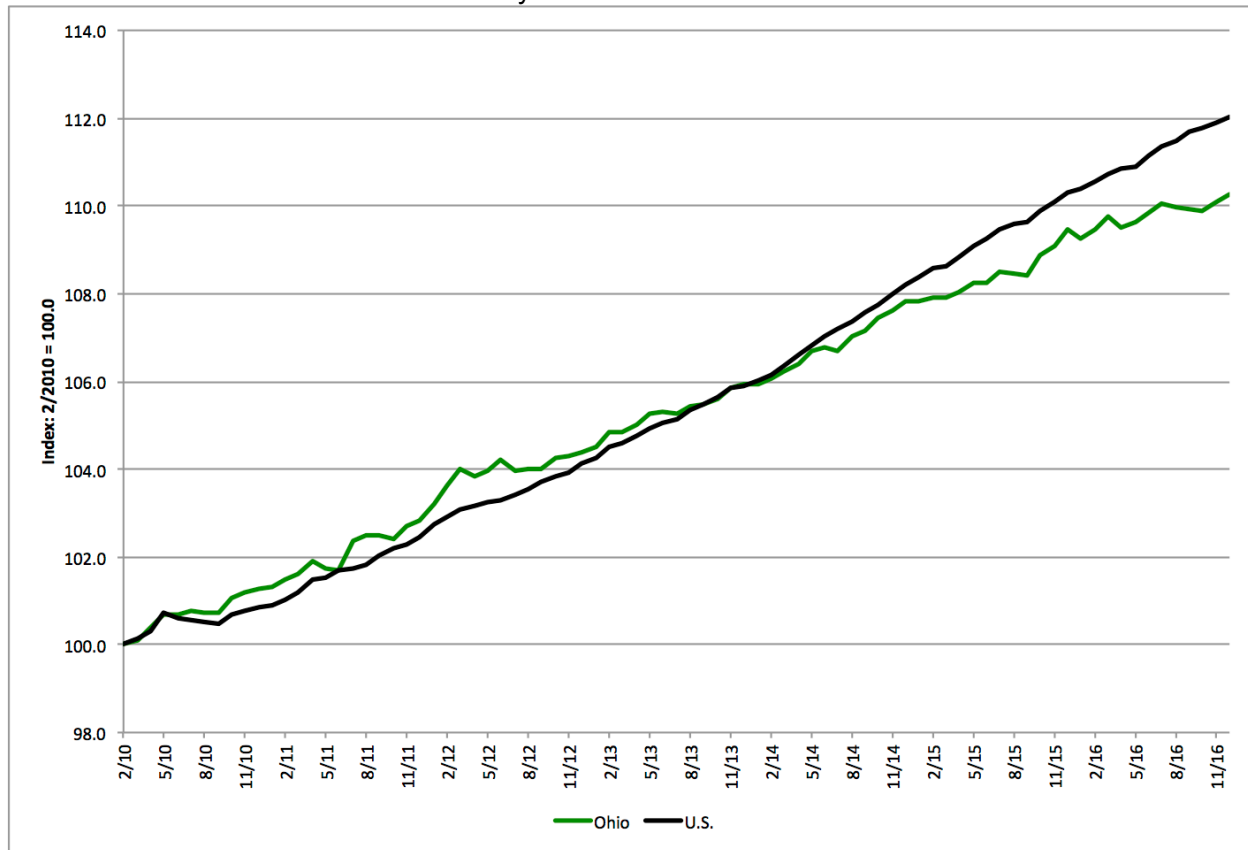
**Figure 8**  
**Annualized Percentage Changes in Payroll Employment**  
 January 2015 – December 2016



**Source:** Current Employment Statistics, U.S. Bureau of Labor Statistics.

The trend in state and national payroll employment is shown in Figure 9, the updated version of a graph that has been featured in previous articles. The chart begins in February 2010, when national and state employment growth became positive. Ohio employment growth exceeded the national average prior to mid-2012 and has been less than average subsequently. Total growth statewide has been 10.3 percent versus statewide growth of 12 percent. Still, the Ohio trend remains generally stable and positive.

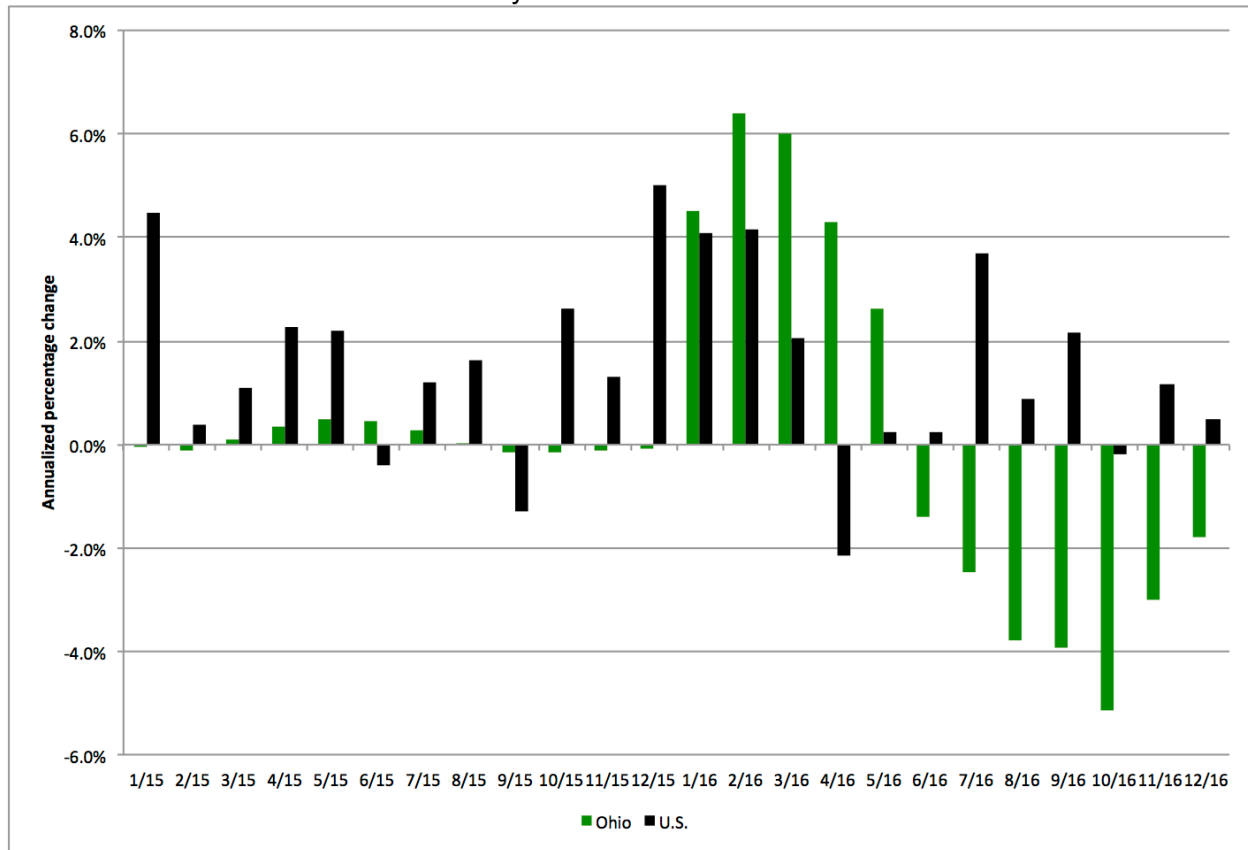
**Figure 9**  
**Comparative Growth in Payroll Employment**  
 February 2010 – December 2016



**Source:** Current Employment Statistics, U.S. Bureau of Labor Statistics.

Monthly changes in resident employment over the past two years from the Current Population Survey are charted in Figure 10. In contrast to the previous charts, this one gives cause for concern: the number of employed Ohioans has declined steadily since June 2016, although the magnitude of monthly declines is decreasing. The total decline since June has been nearly 100,000, or 1.8 percent.

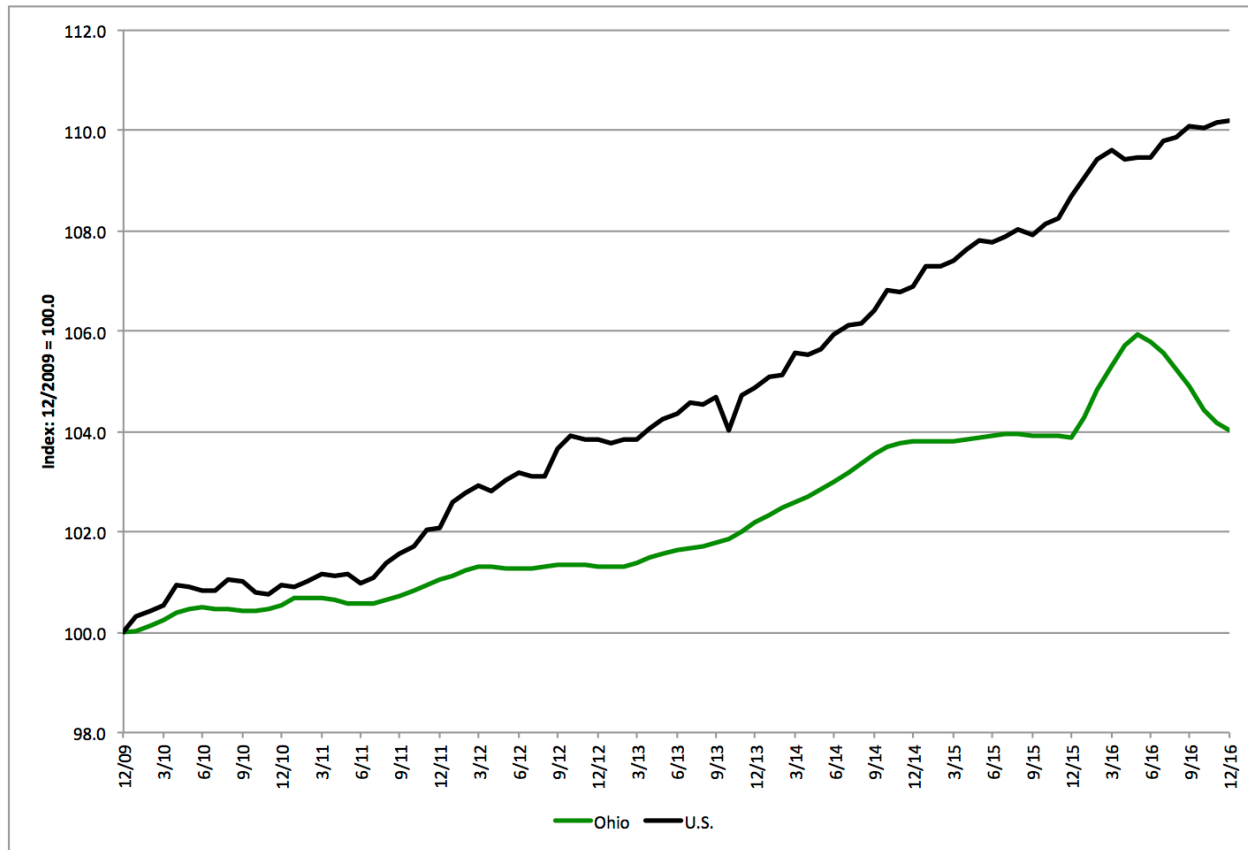
**Figure 10**  
**Annualized Percentage Changes in Resident Employment**  
 January 2015 – December 2016



**Source:** Current Population Survey, Local Area Unemployment Statistics, U.S. Bureau of Labor Statistics.

Cumulative resident employment growth in Ohio and the US is shown in Figure 11, charted from its December 2009 trough. In contrast to payroll employment, estimated resident employment growth in Ohio has consistently and significantly lagged the national average. The recent statewide trend is puzzling: a sudden surge in employment beginning in January 2016 (also evident in Figure 10) followed by the steady decline that brought the total back close to its January level. Overall, Ohio employment in December was only 4.0 percent higher than in December 2009, while nationwide employment was up 10.2 percent.

**Figure 11**  
**Comparative Growth in Resident Employment**  
 December 2009 – December 2016



**Source:** Current Population Survey, Local Area Unemployment Statistics, U.S. Bureau of Labor Statistics.

## Concluding Thoughts

Looking at the trends in Figures 10 and 11 in isolation would lead one to believe that Ohio is likely already in recession. But neither production nor income trends – nor the payroll employment trend, for that matter – support this conclusion. Thus, the conclusion from the analysis as a whole is that based on current information, Ohio is neither in a recession nor approaching one.

However, the onset of a national recession could lead to a corresponding (and possibly worse) downturn in Ohio. But the consensus of the economics community is that a recession in 2017 is highly unlikely. Each month, the *Wall Street Journal* surveys more than 60 economic forecasters on a range of topics, one of which is the probability of a recession beginning within the next 12 months. The individual responses are averaged, resulting in a consensus view. The just-released February survey puts the average probability of a recession this year at 15 percent, down from 22 percent last summer and its lowest level in more than a year.

Another important point is that recent estimates of all the measures analyzed in this article are preliminary and subject to revision. The Ohio Labor Market Information Bureau will release a second annual revision of 2015 payroll employment totals and a first revision of the 2016 totals on March 3. These will be available on the BLS website, together with revisions of US

employment estimates ten days later. BLS also periodically revises estimates of labor force, resident employment, and unemployment. These revisions could possibly eliminate the sharp growth and decline in 2016 resident employment. National-level economic statistics are also periodically revised, and can change the direction of recent trends either positively or negatively. For this reason and because of the fact that a recession represents a prolonged period of declining activity, the NBER's announcement of business cycle peaks and troughs always occurs much later than the peaks and troughs themselves. The announcement that a recession had begun in December 2007 was made in December 2008, while the end of the recession occurred in June 2009 but was announced in September 2010. Significant downward revisions to the economic measures analyzed in this article could change its conclusion.

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